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P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Seventh Semester, B.E. - Information Science and Engineering
Semester End Examination; Jan. / Feb. - 2021
Machine Learning

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

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|------|---|----|
| 1 a. | Define Machine learning. Explain its types with examples. | 10 |
| b. | Give the road map for building machine learning system. | 10 |
| 2 a. | Explain support vector machine algorithm. | 10 |
| b. | Explain how to tackle over fitting via regularization with example? | 10 |

UNIT - II

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|------|---|----|
| 3 a. | Define decision tree algorithm. Implement the same. | 10 |
| b. | Explain which algorithm is called as lazy learning algorithm and why? | 10 |
| 4 a. | Explain Naïve Bayes algorithm. | 10 |
| b. | Explain how to perform one-hot encoding on nominal features? | 10 |

UNIT - III

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|------|--|----|
| 5 a. | Explain PCA algorithm for dimensionality reduction and summarize it. | 10 |
| b. | Explain bag of words model. | 10 |
| 6 a. | Summarize the main steps that are required to perform LDA. | 10 |
| b. | Explain various performance evaluation metrics. | 10 |

UNIT - IV

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|------|---|----|
| 7 a. | Why we need regression model in machine learning? Explain its types. | 10 |
| b. | Explain k -means clustering with steps using scikit learn. | 10 |
| 8 a. | Explain Clustering. Give the differences between hard versus soft clustering. | 10 |
| b. | Explain the architecture of multi-layer neural network. | 10 |

UNIT - V

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|------|--|----|
| 9 a. | Explain building multilayer neural networks using TensorFlow's Layers API. | 10 |
| b. | Explain Convolution neural network concept. | 10 |
| 10a. | Define a variable in TensorFlow? Explain TensorFlow ranks and tensors. | 10 |
| b. | Explain how to build an regression model in TensorFlow? | 10 |

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